DOCUMENT RESUME

ED 067 098 JC 720 231

AUTHOR	Connor, Aikin; And Others
TITLE	Forum I: Information Systems.
PUB DATE	72
NOTE	33p.; Papers presented at the 52nd Annual Convention of the American Association of Junior Colleges, Dallas, Texas, February 27, 1972
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Data Collection; Educational Research; *Information Needs; Information Sources; *Information Systems; *Institutional Research; Institutional Role; *Junior Colleges; State Agencies; Statewide Planning

ABSTRACT

This collection of papers is intended to help develop a rationale for the gathering and use of data in 2-year colleges. Problems of data as experienced by a state director, a college administrator, an institutional research office, and a national community junior college information service are discussed. Some conclusions were: (1) state agencies have planning and coordination as their fundamental purpose; (2) to be effective, state agencies need to define what information is needed, and how it can be made available; (3) institutional research is the means to successfully plan community college goals and purposes; (4) a college cannot afford not to know about its students; (5) an effective information system has potential in terms of making projections and designing models; and (6) to develop self-knowledge, a college should have an information analyst and an ability to listen. (RN)

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ED 067098

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JC 720 231

Papers presented at the 52nd Annual Convention of the American Association of Junior Colleges, February 27, 1972, Dallas, Texas

UNIVERSITY OF CALIF.
LOS ANGELES

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CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

INTRODUCTION

by Aikin Connor*

The problems of data collection, analysis, and utilization in the community and junior college are not easy ones. What data should be collected? How should the data be collected? What analyses are appropriate and meaningful? What questions can be answered by the data? Once collected, how should the data be reported?

The papers presented here will not answer all these questions nor will they solve all our data problems. The purpose of these papers, instead, is to help develop a rationale for the gathering and use of data in two-year colleges.

To take a pragmatic position, the value of the data we gather resides solely in the use to which they are put. The college administration must know certain things about the students, faculty, facilities, etc., in order to maintain operations and make plans for the future.

The state administration must have certain information in order to deal effectively with legislation and other state-level activities concerning the two-year college system.

In agencies dealing with a national constituency of community and junior college interests, information needs cut across state-lines, program-lines, and years. In order to identify national needs, explicate current trends, and document important activities related to the two-year colleges, such agencies must have information from the whole population of institutions.

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In effect, then, we work within a kind of information network: national agencies look to the individual states and colleges for basic, essential data; state agencies look to the individual colleges for data about operations within the state and to the national agencies for a meaningful perspective in which the various states relate to a nation-wide process; the local administrator looks to the state agency for state-level perspective and comparative data from within the state and to the national agencies for an even broader perspective; and, ultimately, the institutional researcher interprets the needs of all these agencies and comes up with the data required.

To state the case for each of these network components - to describe its needs, requirements, and constraints - we have presentations by experienced and knowledgeable practitioners who address themselves to the problems of data from the points of view of a state director, a college administrator, an institutional research office, and a national community junior college information service.

INFORMATION SYSTEM NEEDS OF THE STATE AGENCIES

by Louis Bender*

As you have already concluded by now, I have been asked to substitute for Dr. Fred Wellman, Executive Secretary of the Illinois Junior College Board, who originally was scheduled to serve on this panel. Now I am familiar with the usual audience perception of a substitute and therefore had hoped to be anchorman on the program this afternoon in order to claim all of the good things previously said by the panelists were those I had intended to present. Unfortunately for me, Aikin Connor is a very persuasive individual and he changed the order of panel presentation. While I had argued it would be more desirable to hear of the local perspective and then move to the state level, Aikin convinced my colleagues up here that we should begin with the state overview first. I want all of you to know, however, that Aikin really isn't kidding me as to his hidden motive. I've observed similar perceptive researchers in action and therefore am convinced that what he has done is intended to serve your best interests since he assumes my presentation, if poor, will be overshadowed by subsequent presentations and anyway you will probably forget what has been said by the first person at the podium before the end of the session.

Fred Wellman did ask that his regrets and apologies be extended to all of you. The reason for his absence this afternoon is the fact he is Treasurer of the National Council of State Directors which is holding its business meeting at this time due to a conflict in schedules. Prob-

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*Dr. Bender is currently Professor of Higher Education at Florida State University. He was formerly State Director of Community Colleges in Pennsylvania.

ably some of the state directors insisted Fred be present for his financial report in order to determine whether they will be solvent for the next year. Now on with the topic.

State Agency Purpose

In order to examine the information needs at the state level we must first identify the purpose of state involvement in community college education. Most state agencies if asked to enunciate their purposes would identify the two most fundamental as planning and coordination. Examining these two briefly within the state level context, it becomes apparent that information required by the operational colleges represents only one of several component information needs of the state agency. Unfortunately, much of the information necessary for state level coordination and planning is not available nor collected within the regular data and information gathering structures of the colleges. Many times this fact has caused heavy burdened institutional officers to believe state officials must sit in their offices dreaming up new questionnaires and surveys of little apparent use or value. Let's examine each of the two purposes briefly.

Planning

State agencies must maintain an on-going planning process of both short-range and long-range dimensions. Furthermore, in practically every state it is necessary to consider two quite different constituencies. First, planning must encompass the operational institutions themselves. What will be the requirements upon the state for capital and operating funds to maintain, develop, and foster the existing institutions? The agency must have its information on the number of students served as well

as those anticipated to be served in the next five or ten year planning periods. In addition, types of programs to be initiated and services to be offered must be developed into a composite of the education and training elements available to meet statewide manpower and educational needs. Furthermore, personnel required to staff the institution must be known and anticipated with efforts made to provide for preservice and inservice training needs. In addition to human resources, physical facility resources must be inventoried with projections of needs for new facilities or requirements for administrative adjustments to achieve greater utilization of existing space. Budget requests and projections are a constant companion of the state officer as he attempts to translate the requirements of the individual institutions into a coherent composite appropriation request. Implicit in this planning function is the need for the state agency to be able to respond to questions of the administration in power or the legislature on immediate or long-range issues related to the capital or operating budget requests. I shall address myself to this aspect a bit later.

The second major dimension of planning confronting the state agency often is taken for granted or at least is poorly understood by most operational institutions. That is the obligation of the state agency to plan for the areas, geographic or populations, of the state not covered by operational community colleges. In many states, as most of you know, more than one-half of the geography and nearly as much of the citizenry are without the community college education services available to other portions of the state.

Significant questions which must be answered to accomodate this responsibility include: What educational programs and services are

needed? What numbers of students might be expected if a new institution would be established or tentative strategies for supporting these students were implemented? What impediments obstruct the establishment of new institutions? How should service-area boundary lines be established and what financial requirement would be necessary if an institution were created? What sociopolitical steps would need to be taken in order to promote the necessary initiative and action needed to create the institution? And finally for illustrative purposes, but definitely not the last question to be answered, is what impact a new community college established in such an area would have upon existing institutions, both private and public, operating there.

It is obvious that much information needed for this planning function could not be collected at the institutional level. Naturally, the state agency must call upon state-wide, even regional and national, information sources in order to make an appropriate projection and analysis of manpower needs, population and other demographic information, program estimates, tax ratables base, and so forth. Yet, it is quite important to the state official to be able to draw upon facts and information from the operational community colleges within the state in order to make comparisons, develop hypotheses, formulate assumptions, establish working parameters or foster public understanding and support. This is not too different from the tasks of local colleges to generate information designed to promote public understanding, is it?

Coordination

Now let me turn to the second purpose: coordination. The responsibility of the state agency for coordination is fairly well understood when we think of the need for the operational institutions to work together

to maximize educational services and economies while minimizing unnecessary duplication and low priority programs. The function of the state agency in this regard is to maintain a composite picture of the total operation of all institutions and to provide the focal point for a communications network covering all colleges. You will notice that I have been careful to avoid the use of the term "system" although it is quite apparent that the state agency must foster systematic coordination, even in those states where the responsibility of the agency has been legally limited to that of an advisory role.

A second area involving coordinative efforts of a state agency relate to the other types and levels of post secondary institutions operating in the state. Frequently it is the responsibility of the agency to represent the two-year college segment in promoting articulation agreements and other institutional cooperation.

In this regard it is frequently necessary for the state agency to act as spokesman for the colleges, often in a conflict or adversary setting. It is not uncommon for the state director for community colleges to be asked by a legislative committee to explain some charge or challenge or rumor which has been directed toward the two-year colleges. Often this is during deliberations concerning budgetary matters. If on-going practices of the state such as unit cost analysis enable the state director to respond to a legislative committee inquiry on the relative costs of educating a student in the community college as opposed to a state college or university, real progress results for everyone.

The task of the state agency in responding to information requirements from the Governor's Office or the Legislature necessitates a monitoring, initiating, and defending role which often results in a plea to

the operational colleges for instant information. While such a request is treated often with the view that the bureaucrats are generating more work at the local level, it is often this kind of information from the local institution which will change negative or detrimental proposed legislation to supportive legislation.

The last illustration of state agency coordination need I'll mention is that of overall accountability whether it deals with students, programs and services, personnel, facilities, or finance. I do not have time to delve into each of these but I am sure those of you in the audience working with your state agency are sensitive to the demands and expectations for this kind of information. Furthermore, I anticipate this subject will be amply covered by other panelists this afternoon.

Planning Concepts

Now, I would like briefly to identify the basic components of the planning and coordinating concept facing the state agency. This is not different from that followed at the local institutional level but should be reviewed in order for me to identify some of the problems and issues confronting state agencies in the development or operation of information systems.

Diagramatically, the first component is that of public policy determination. This equates with or is comparable to institutional philosophy which guides in the priority decision-making as we proceed to each subsequent component. The second component represents the determination of program and service requirements. What programs are needed to accommodate the manpower requirements of the state for which the community colleges can program their educational offerings and services?

After program requirements have been determined the next component is that of resource needs which I divide into human and physical facilities resources. The fourth component naturally relates to requirements to achieve the previous component needs. These are determined from the public policy context when the state has established how committed it is to the community college program and the specific number of institutions to be established or programs to be offered in that state. Finally, the fifth component is that of evaluation. With this element we begin the feed-back to public policy component to complete the process loop and thus provide for the on-going planning and coordination function itself When any one of these components are not buttressed with an appropriate information system, the entire process suffers. If I had more time, I'd like to illustrate information needs for each component.

Problems and Issues

Some of the problems relating to information systems at the state level are timing, accuracy, nomenclature, static information, or wrong information. The larger the system, the more complex and time consuming information gathering becomes. Furthermore, it is not unusual to find large quantities of data which are useless because they have no informational value. While the use of the computer has improved on the problem or accuracy, we often encounter wrong information injected into the computer itself.

The state agency by its position and nature must deal with issues many of which require special information gathering and research. For example, in public policy--making it often becomes a major problem for the state agency to overcome false assumptions or mis-information. How many of you have heard of the terrible "dropout" rate of community colleges

or more recently described as "attrition rates?" Now, how does the state agency generate these facts which conclusively show that the very concept of dropout or attrition is inappropriate for the "service station function" of being available to citizens who can drop-in and drop-out at different times and periods throughout life? How does the state agency accommodate the public policy question posed by new forms of education including non-credit and non-institutional study?

Some of you probably wondered what I meant earlier when I indicated static information and wrong information were among the major problems of state level information systems. Any system which does not enable planners or decision makers to consider alternative courses of action fails. Too often state planners have only historical data, and frequently even that is out-of-date. What is needed is historic, current and project information with analysis possible to anticipate the consequences of alternative directions before final conclusions are reached.

How valuable is the enrollment and degrees-awarded data in determining the program requirements for existing or future institutions? Yet many strategies, including some state plans to assist private institutions, are based on such wrong information. Because of such problems the concept of state governmental PPBS (Program Planning Budget System) had great appeal. Unfortunately, no comprehensive management information system has yet been devised which affords all components of the planning concept I outlined total information.

Some of the real needs in information systems at the state level include?

1) Systems which constantly update themselves.

2) Systems which are compatible with other agencies within and outside the state and regional and national levels.

3) Systems which erase the communications gap between information developers and users.

4) Systems which facilitate simulation of outcomes and consequences of alternative courses of action.

5) Systems which are responsive to instant information needs as well as long-range needs.

6) Systems which have been developed on fundamental problems.

7) Systems which support comprehensive analysis, not intuitive judgment alone.

8) Systems which encompass not only the constituent operational colleges but the entire state.

Management Information System Development

I shall conclude my formal remarks by briefly describing the efforts of the state directors through the National Council for State Directors of Community-Junior Colleges in cooperation with the AAJC and the Center for State and Regional Leadership which operates jointly between the Florida State University and the University of Florida to develop a management information system which will accommodate specific needs of the state agencies not presently available through institutional informational resources. The W. K. Kellogg Foundation has made a grant to the Center for State and Regional Leadership of the Florida State University and University of Florida to work closely with the state directors in identifying the answers to four important questions. First, what information is needed by the state agency on a regular basis? Second, what information sources presently exist and what specific information can be obtained from these sources? What additional information does the state agency need that's not available through these sources? And fourth, what

model can be developed to assure this information is generated and made available?

We are all familiar with the work of the National Center for the Higher Educational Management Systems (WICHE) and the work which is being done through institutional, state and governmental participation in that activity. The efforts I have just described are not in competition with but are complimentary to the NCHEMS (WICHE) efforts. Hopefully, with the help of Aikin Connor and the AAJC staff, we will be able to have an operative informational system among the state agencies within a calendar year which will advance the cause for community college education. Thank you very much.

INFORMATION - FOR DECISION MAKING

by Leland B. Luchsinger*

The administrational staff of the Community College and the governing board must determine the philosophical commitment of the institution. I know we concentrate upon empirical data in the decision making role or process, but questions are being asked, some of them may include:

1. Who is to be served?
    a. Educational background of the clientele to be served.
    b. Student profile.
2. How are these individuals to be provided educational opportunities?
    a. Through what facilities
    b. By what methodology teaching techniques and teaching materials.
    c. Through special laboratories, i.e., developmental laboratories audio-tutorial.
3. What are the costs?
    a. Of construction
    b. Of programs
    c. Of credit hour production

The philosophical commitment must include the goals which are to be attained and the objectives to be achieved. The governing board, under the leadership of the chief administrator, must formulate objectives and goals by various means, including a survey of the constituency to be served

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through fulfilling the statutes that founded the institution or permitted the institution to be established, and be determining and stating the role or institutional image the college is to fulfill.

What should the community college be and what clientele should it serve through - transfer courses, occupational courses; should it be comprehensive, selective; should it serve ethnic minorities, affluent, middle class, old, young, men, women, handicapped? As an aid in determining philosophical commitment and the goals and purposes the administrative staff may informally poll a representative sampling of the constituency or a survey technique may be used to determine the direction the college will take and the role of the institution in higher education. Much of the input can be provided through informal conversation, civic participation and advisory committee participation.

A synthesis of opinions will result in establishing the peripheries of the institution, its role, the clientele to be served. An experienced, dynamic leadership must be displayed by the chief administrator; thereby, avoiding pitfalls of members of the community conceptualizing the institution to be a different institution than the institution planned by the governing board (we might liken this situation to the blind men and the elephant).

How does institutional research assist with the selection of the faculty? The president, his designee or the personnel director must identify potential faculty members who have instructional commitment which is compatible with the philosophical commitment of the institution. If emphasis is placed on teaching a diverse, heterogeneous student body, with varying degrees of past educational achievement, and on the other hand the instructor wished to work with a select group of highly motivated

students - something has to give.

Institutional research plays a vital role in determining the number of students to be served, the profile of these students, the curriculum to be offered including diverse occupational programs. The role of the institution will include occupational programs, the length of each and desired behavioral changes (skills and knowledges) whereby students may gain skill and knowledge, and should change attitudes whereby students become successfully employed upon completion of the program which the student has selected to fulfill his educational and occupational goals.

Obtaining demographic data which will establish a profile of the student body and which will determine the curricula (the courses and programs to be offered) is a complex task. Sources of data relating to students include parents, high school staff, counselors in high school and the potential students themselves. This will include recent high school graduates, employed workers, unemployed, underemployed, and mobility - bound individuals.

Certain types of statistical data will be more readily available from high school sources than from any other. These sources may include:

1. Quantitative data on the numbers leaving high school, both with diplomas and without.
2. Other enrollments statistics and projections.
3. Data on programs entered by graduates in previous years at the local Community College and perhaps at neighboring community colleges.
4. Various statistics (both actual and projected) on where the high school graduates are entering higher educational institutions, including total percentage seeking

4. (continued)

higher education, the percentage attending four year colleges, the percentage attending two year colleges, the percentage going on to career programs in two year colleges, those enrolling in university parallel or transfer programs and the total percentage who attend the local community college.

5. Actual and projected data on the scholastic ability of students.

6. Statistics on the non-college bound, including questions related to why they are not planning to attend post-secondary education, quantitative information and questions relating to socioeconomic factors may be involved.

7. Identification of specific occupational programs needed with supporting justification and priority ratings for the implementation of occupational programs.

If the institution has a definite commitment to occupational education the institutional research director, faculty and governing board must be certain that occupational programs will fulfill students' interests and demands and that manpower needs do exist and that the skills of the students will meet the demands of the job when he has completed his occupational program. This may be supplied through computerized job match, employer manpower needs being matched to students acquisition of skills and knowledges which makes the student eligible for employment. Implementing occupational programs is a high risk at best; therefore,

the governing board, administration and staff cannot "fly by the seat of their pants." Numerous examples can be illustrated that cite the implementation of occupational programs without data; the result will be fiasco. Expenditures of large sums for facilities and equipment have been made to set up a program for which no enrollment ensued. Students have completed occupational programs and have been unable to find jobs. The policy of numbers, contents and ultimate objectives of occupational programs must be well documented.

Courses which make up the transfer curricula are somewhat determined by the baccalaureate degrees - granting institution to which the students transfer. However, administrative policy must be established pertaining to articulation of the curricula. Must the community college do all the co-opint while the college or university does the operating, or is this a mutual problem, one in which both institutions must cooperate?

The chief administrator and his staff must make decisions daily. He makes them autocratically or with the input of all concerned through the decision making process - shared governance. Decisions must be made. A planning and the management system or institutional research provide the data - empirical data upon which prudent judgments are based:

1. Enrollees in a program versus completions in a program.
2. Diversity of program i.e., Auto Mechanics to Zoology, Sophomore Russian, Nuclear Medicine Technology.
3. Space (cost per square foot, especially if the institution is renting.)
4. Ethnic mix of the student body, based upon economic, social, educational deprivation.

5. Students employed full or part time.
6. Ratio of staffing to students in the instructional area; also in the areas of student services.
7. Budget of comparable cost centers, especially in multi-college districts or systems.
8. Capital outlay expenditures, program costs, what does it cost to complete a history course or an associate degree by a student who plans to transfer to a baccalaureate degree granting institution and major in history, as opposed to a program in mechnical technology and the cost of completing an associate degree in mechanical technology?
9. Legislators compare educational costs per student. One institution may have a distinguished instructor in economics who has his Ph.D., and who has had many years of teaching experience and is at the top of the salary schedule. A neighboring institution may have an economics instructor with his master's degree and minimal teaching experience who is at the lower end of the salary schedule. If we do not document and reveal the source of data as well as explain how the data may be used for comparisons, the cost per credit hour generated in the economics sections at the two institutions may vary so greatly that questions may be asked, "Why can't the forementioned institution provide instruction at the same credit hour cost as the second mentioned institution?"

10. Library, how do we retrieve information? How do we use ERIC, bound volumes, Print and non-print material?

11. Percentage of the budget for instruction and instructional supplies for student services, for administration, for operating and maintenance, for learning material center (library), for special instructional laboratories, such as developmental laboratories or vestibule laboratories, for evaluating behavior change in our students for placement of those individuals who have completed occupational programs.

12. Maintenance cost per square foot.

13. Space utilization, room utilization (we may have one student in a room which seats 25, that room would have 100% utilization). Student space utilization would be another thing (the efficiency ratio of utilization derived by scheduled hours divided by total hours the room is available), by student station utilization, plant utilization or extended hours or how many months of the year are the facilities in use?

14. Faculty load, ratio of instructors to students, number of preparations, student contact hours generated by the instructor, credit hours generated by the instructor, credit hours taught, contact hours taught, student contract hours generated by the instructor.

15. Placement and follow-up.

We may not like the directives from legislative bodies, but let's face it higher education doesn't wear the halo it has in the past. I

am sure you have heard the word "accountability." We can't say, "We don't know." We must have the facts and must be able to measure our achievements and account for the behavior changes in our students. This is being demanded of us by legislative bodies and by the public. Demands for performance have changed. Those individuals employed in higher education are not the sole experts in the field, we must document why we need revenues to perform and offer educational programs.

We can be sure of one thing - change. Change comes about through involvement of the talent of all to be served, changes are brought about by those serving in a student centered institution. Institutional research is the means to successfully plan the goals and purposes of the unique institution, namely the Community College and together the information which will help us make prudent decisions which are beneficial to all students, instructors, administrators, governing board members and the constituency.

A RESEARCHER LOOKS AT INFORMATION SYSTEMS FOR COMMUNITY COLLEGES

by Ann Bromley*

The development of information systems for meeting changing needs of community colleges and the effective usage of these systems has been brought into focus by a multiplicity of factors. To mention a few--the rapid development of computer technology and its resultant potential, inflationary educational costs with accompanying budgetary restraints, the increasing demands for data and statistical reports by external agencies and the concern of the taxpayer for value in the expenditure of the educational dollar.

The nature, purpose and philosophy of the community college adds to the complexity of the data problems involved in the development of information systems. From a researcher's point of view the community college with its open door policy, its credit and non-credit offerings, its part-time and full-time students, and its receptiveness to implementation and innovation does not classify itself as a tidy, consistent sample for study. We do not mean to infer that the community college alter or amend its role and mission in the higher educational framework. We only wish to point out that the fundamental and basic concepts inherent in the philosophy of the two-year community college present research challenges that are unique.

Information has been defined as "an aggregate of facts so organized or a datum so utilized as to be knowledge or intelligence. Information is meaningful data, whereas data, as such, have no intrinsic meaning or

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significance. Information is the concept relating data which are otherwise meaningless to some specified human purpose or objective." (Rosove, p. 3) Information, then, becomes meaningful through data related to a specified purpose or objective. The critical word is "meaningful" and the importance of a carefully and cooperatively designed elemental data collection and reporting system cannot be over-emphasized. If the college is to have an information system effective in the allocation and utilization of resources and helpful in the administrative processes, then a collegewide, coordinated approach to the planning and design of the institution's information system is essential. There are few activities more frustrating than to need data in response to an inquiry (either internal or external) and either to not have it available or maintained in such a way as for it to be non-retrievable or retrievable only after hours of clerical work. At this point I would like to paraphrase a cliche to illustrate. Instead of an ecologist lamenting "Water water everywhere but not a drop (fit) to drink", a researcher might say "Data data everywhere but not a bit fit for analysis".

There is probably no junior college that does not gather information about its students. The data most frequently collected include sex, age, marital status, race, academic and achievement measures, and other demographic information. Unfortunately, a substantial amount of the data available on the junior college student rests in a file in a college office or in several offices. It is not uncommon for Records and Admissions to maintain the permanent record file; test scores and evaluations to reside in a Counselor's office; and financial aid information to be collected elsewhere. If this is the situation, then the process of gathering information for a comprehensive student profile is

an expensive, laborious clerical task and the question to be answered administratively is "Is it worth it?" "How much do we really need it?" It is my posture that the college can't afford not to know. Let me elaborate a few of the reasons:

1. To assist in the development of curriculum and programs. If the college is to respond to the needs of the community and its students, it needs to know.
2. To inform the faculty and staff through in-service training sessions about the college-wide student population rather than to be informed about the 150 to 200 they teach.
3. To compare the incoming student profile with the graduate student profile. How many and what are the characteristics of the students you are not graduating? In accountability terminology, what are the differences between the "inputs" and one group of "outputs"?
4. To examine trends in the types of students being served, and
5. To respond to the increasing number of governmental, state and other external reports.

The development of a student information system is a time consuming activity, resulting only after many hours of identifying, collecting, coding, storing, retrieving, analyzing, and interpreting elemental student data. For d[illegible] to be valuable and to be meaningful, they should have certain characteristics. They must be accurate, they must be continuously available, they must be consistent, they must be historically compatible, and they must be in a format that allows flexibility. Lack of these characteristics increases the constraints under which the researcher operates and diminishes the system's validity. The system

becomes a meaningful and effective tool when the information generated answers a question, or provides data related to institutional decision making. It is important for the researcher to know the who, what, when and why the information is needed.

Knowing who is to receive the data is desirable since the information should be adapted to the receiving public. The degree of sophistication in regard to community colleges is one determining factor in how the data are presented. Another might be whether the material is for internal or external dissemination.

The more definitive the request on what kind of information is required, the more it eliminates fruitless data collection. Let me illustrate by asking a familiar question. What is the college's current enrollment? Does the question refer to full-time credit students, credit students, full and part time, headcount or FTE? The more specific the request to the researcher, the more accurate the information will be.

Knowing when the information is needed is critical. A researcher frequently is busily engaged in responding to various crisis requests. Sometimes the data are in such a form that they cannot be collected, tabulated and reported by the deadline date. Priorities for research should be established and while they may be temporarily shelved to accommodate an urgent request, their basic ranking should be maintained.

It is extremely important for the researcher to know why the information is requested. As mentioned earlier, data are simply data until they fulfill a purpose or specific objective and then selected clusters of data become informational and meaningful in support of a purpose. Research can perform its services to administration more effectively when the reason for the request is given.

Thus far, I have shared with you a few of the constraints surrounding the gathering of data in a community college setting. I have enumerated some of the basic characteristics of data elements. I have stressed the importance of the researcher's knowing the purpose of the request, the receiving public, the time frame for implementation and as many of the specifics as possible. I have listed a few of the most prominent reasons why any college cannot afford not to know about its student population. I did not enumerate a similar list of reasons for gathering data relating to the financial, personnel, facilities and other aspects of the community college, but the inference is there.

Now, I should like to share with you some of the possibilities and potentials an effective information system might have in the operation of a community college. I used the verb "might have" since few institutions have developed their systems sufficiently to talk about its effectiveness in a realistic manner. It is a goal to be described, rather than a status quo to be reported.

Hopefully, the day will come when, with a minimal amount of programming, almost any pattern of data can be generated which will assist the administrator and others in a community college in their tasks. These requests will be handled with a limited number of personnel and a maximum amount of appropriate and accurate data. They will be responded to expeditiously while allowing time for longer-range studies which are sorely needed.

It is likely that within the next five to ten years, issues such as leveling enrollment, resource allocation, restricted income and others, will be even more prominent and critical than they are today. What will be needed is an entirely new set of parameters for planning.

An effective information system has the potential to make projections which are crucial in a planning process. In retrospect, I am sure that most of you in 1965 would have found it valuable to have known a projected estimate of your current enrollment. I selected enrollment because that statistic is one of the most controlling bits of data for an educational institution. Contingent upon enrollment is budget, faculty, facilities, programs, support staff - all are inter-related.

One of the most mentally exciting possibilities for an information system is the use of models or what some have named "playing the what-if" game. If, for example, in 1965 we were able to predict the fall, 1971 enrollment, a model could describe, using predetermined policy parameters and holding certain variables constant, the resources required to accommodate the student load. It can be used to point out alternates and it allows examination of options. A model has the potential to manipulate the rules and in-puts and come up with summaries of faculty, facilities or funds needed to do the job. The administrator or governing board still bears the burden of decision, but a model allows an assessment of approximate results before a commitment is made.

It has been said that three of the most fundamental tasks facing a President are: "to explain his college or university to its public, to lead his colleagues in the achievements envisioned, and to deploy his resources to get the most out of them." (Dressel, p. 248) A well developed information system and its implementation by the research officer and others can assist effectively in the perfomance of these administrative responsibilities.

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DISCUSSION

by Young Park*

All of the papers presented today seem to emphasize one major point --there is a great and critical need for more information on the community college. My fellow panel members and colleagues represent the state level, the college district administration, and institutional research and all levels seem to be suffering from a lack of information. I agree. However, I might also ask why there has not been any concentrated effort on the part of the administrators and practitioners to obtain this information.

Indeed, I might ask how the state, district administration, and institutions have been making decisions if there has been this informational gap in the community colleges. How can states develop master plans, and almost every state has one, without information? How can a district develop its curriculum and instruction as well as its financial structure without information? Yet, they do. Community colleges have existed for over fifty years without the kinds of information demanded for decision making today. How is this possible and why is there a sudden need now?

A good part of the answer may lie in the fact that public education is today faced with accountability and "necessity is the mother of invention", in this case taking the form of PPBS and other such management systems. Superficial knowledge about education is no longer acceptable to the public. Education is being recognized for what it is, a gigantic financial enterprise that produces a product and those who operate the schools are hard put to demonstrate that they have actually produced a predetermined finished product.

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Educators must not only obtain information to answer questions of finance but they must also find answers to new problems facing the educational establishment. Sociological and economic failure are not the only reasons for educational change. Educational failure is also a factor. Therefore, educational methods and principles and practices are also subjects of examination. What has constituted educational research in the past is not directly applicable to educational problems today. It is not only a matter of more information, but different kinds of information.

When we begin looking for different kinds of information we must find different sources of information. Reliance on research oriented university based theories is a long range possibility, without much assistance for those who have to make decisions now. Centers of information and "library services" have been established throughout the country to assist those seeking information, but these agencies produce and collect general information that are difficult to use in special situations.

Thus, the sudden cry for information may also arise from the fact that relevant information is not, and has not, actually been available for decision making. It may be well to identify several components of information services as well as sources of most information that might be used by community college practitioners.

First, there should be a distinction made between library services and information services. The difference lies in the <u>transaction</u> performed by each. A library deals almost entirely in collecting document and very little in disseminating information. An information system, on the other hand, collects information for the express purpose of disseminating it to users. It is <u>consumer oriented</u>.

Data is available but <u>data are not information</u>. They have potential,

but cannot become information until the recipient is able to utilize the data. Thus, data collected by a national agency, or even a state agency, is often of little value to the practitioner. The only source of data that can be made into information is your own institution. It is ironic that every research study made about community colleges contains data generated at your institutions but you do not have direct access to this raw data.

What every institution needs is institutional intelligence. That is knowledge about the detailed operations of its own college as well as the problems and aspirations of their students and staff. For example, can you follow a national trend and allow student participation in governing the college without knowing something about the attitudes of the students, staff, and community. Can you claim that $800 per student is an effective and efficient operation because this is a state average cost? Are you willing to invest in $100,000 worth of innovative teaching machines because this is a popular trend?

I would suggest that these decisions cannot be made without institutional intelligence. With this kind of information you may well find that your financial crisis is really a matter of ineffective and inefficient expenditures and that the basis of operation has been the platitudes of education rather than factual information.

How can a community college develop institutional intelligence? The following are suggestions that many experts agree would be of help:

A. Informational analyst. Establish an office to design, analyze, and disseminate information. The responsibilities of this office include

1. Systematic data collection and analysis. This function is similar to the management information systems used in government and private industry. Information here is not meant to be statistical studies commonly associated with academic research nor is it a numbers game meant for public releases.

   Data collected in this system would be for the specific purpose of making decisions in your institutions - not to support a research project.

2. Evaluation. The major function of an information management system is to evaluate the operation of the institution for the purpose of future planning and budgeting. Contrary to what many educators maintain - accountability is necessary - both financially and instructional. Community colleges will not survive unless they are able to put their operations on a sound and efficient financial basis. This does not mean reducing staff or increasing the student/teacher ratio. It does mean establishing some effective means of measuring the input against the output.

   Instructionally, accountability means determining how many students actually learn. It means providing data that measures the effectiveness of the teaching methods now being used. It also means comparing cost against actual learning.

B. Listening. Part of the task of decision makers is to learn as much about their colleges as possible. One way of accomplishing this is to listen to all concerned. To whom do you listen? Students? Faculty?

Administrators? Community pressure groups? Obviously, there will be as many opinions as there are people. But what listening to all will do is to give you some "feel" for what the members of the institutional community believe.

More than this do not sell your people short. There is an old adage that you are an expert everwhere but in your own institution. Expertise can be found in your own college. In point of fact, some of you are experts in a number of areas - insurance, building, personnel relations, taxation, budget analysis, etc.

C. Information dissemination. Getting the facts is only one half of the problem. Getting the information into the right hands is the second half. The first step in information dissemination is putting it into a functional form. Information is often confusing because the recipient is faced with isolated data that have been collected for a variety of unrelated purposes and have not been analyzed for decision making.

Dissemination, as well as collection of data, should be for a specific purpose predetermined by those who are to use the information. If you receive a report that consists of graphs and statistics without an analysis of a specific problem you should reject the report as not being usable information. Contrary to some in the university and other centers of research, I believe that academic research is secondary to obtaining useful and relevant information about your institution. For this reason, I have avoided using the shopworn term "institutional research." Research has its value, but what you need is information for decision making - not an academic research report.